

WHAT IS CLAIMED IS:

- 1 1. An electronic traction vehicle comprising:
2 a vehicle platform;
3 a principal power unit mounted on the vehicle platform;
4 a power storage unit mounted on the vehicle platform;
5 a plurality of wheels rotatably mounted on the vehicle platform;
6 an electric motor coupled to at least one wheel;
7 a drive controller coupled to the electric motor;
8 a vehicle controller having an input and an output terminal, the
9 vehicle controller coupled to the drive controller and a data bus network;
10 and,
11 an AC bus assembly to couple the principal power unit, the
12 power storage unit, and the electric motor through the drive controller.
- 1 2. The vehicle of claim 1, wherein the vehicle controller is coupled to
2 one of the principal power unit and the power storage unit.
- 1 3. The vehicle of claim 1, including another electric motor and drive
2 controller coupled to another wheel and coupled to the data bus network and
3 the AC bus assembly.
- 1 4. The vehicle of claim 1, wherein at least four electric motors and
2 four drive controllers are coupled to four wheels and coupled to the data bus
3 network and AC bus assembly.
- 1 5. The vehicle of claim 1, wherein at least eight electric motors and
2 eight drive controllers are coupled to eight wheels and coupled to the data
3 bus network and AC bus assembly.

1 6. The vehicle of claim 1, including a differential assembly coupled to
2 the electric motor for driving at least two wheels.

1 7. The vehicle of claim 4 or 5, including at least two differential
2 assemblies, with each differential assembly coupled to the electric motor for
3 driving at least two wheels.

1 8. The vehicle of claim 1, wherein the principal power unit, the power
2 storage unit, the electric motor, the drive controller, and the vehicle
3 controller are modules removably mounted on the vehicle platform and
4 removably connected to the data bus network and the AC bus assembly.

1 9. The vehicle of claim 8, including an auxiliary module removably
2 connected to the data bus network and the AC bus assembly.

1 10. The vehicle of claim 1,2,3,4,5, 6 or 7 wherein the AC bus
2 assembly is configured to provide at least 50/60 Hz, 480 VAC, three-phase
3 power.

1 11. The vehicle of claim 1, wherein the vehicle controller is
2 configured to control the electric motor through the drive controller to brake
3 the vehicle.

1 12. The vehicle of claim 1, wherein the electric motor is configured
2 to regenerate power back to one of the principal power unit and the power
3 storage unit.

1 13. The vehicle of claim 1, including an energy dissipation unit
2 coupled to the AC bus assembly and the data bus network.

1 14. An AC bus assembly for interconnecting removable modules of
2 an electronic traction vehicle, the modules including a principal power unit, a
3 power storage unit, an electric motor coupled to at least one wheel of the

4 vehicle, a drive controller coupled to the electric motor, an energy dissipation
5 unit, and a vehicle controller having a user interface, the AC bus assembly
6 comprising:

7 a first conductor having a first end and a second end; and ,
8 a second conductor having a first end and a second end,
9 wherein the first end of each conductor is coupled to the
10 principle power unit and the second end of each conductor is connected to
11 on of the modules.

1 15. The AC bus assembly of claim 14, including a third conductor
2 having a first end and a second end, with the first end coupled to the
3 principle power unit and the second end coupled to one of the modules.

1 16. The AC bus assembly of claim 15, including a fourth conductor
2 having a first end and a second end, with the first end coupled to the
3 principle power unit and the second end coupled to a ground terminal
4 mounted on the vehicle, wherein the fourth conductor provides a neutral for
5 interconnecting the modules.

1 17. The AC bus assembly of claim 15, including a junction wherein
2 another module is connected to each of the conductors.

1 18. The AC bus assembly of claim 15, including a plurality of
2 junctions wherein a plurality of modules are connected to each of the
3 conductors.

1 a. The AC bus assembly of claim 14 , including a data bus
2 network coupled to each module.

1 19. The AC bus assembly of claim 18, wherein at least four of the
2 modules are each an electric motor coupled to a wheel.

1 20. The AC bus assembly of claim 18, wherein at least eight of the
2 modules are each an electric motor coupled to a wheel.

1 21. The AC bus assembly of claim 18, wherein one of the modules
2 is an auxiliary module.

1 22. The AC bus assembly of claim 15 or 19, wherein the AC bus is
2 configured to provide at least 50/60 Hz, 480 VAC, three-phase power.

1 23. An vehicle comprising:
2 a vehicle support structure;
3 a plurality of wheels rotatably supported by the vehicle
4 structure, wherein at least two of the wheels are steerable;
5 a principal power unit supported by the structure;
6 at least one electric motor coupled to at least one of the
7 wheels;
8 an electric AC power bus including at least two phase
9 conductors, wherein the phase conductors are coupled to the principal power
10 unit;
11 a power storage unit coupled to the AC power bus;
12 a vehicle controller coupled to the electric motor and the AC
13 power bus;
14 a data bus coupled to the vehicle controller; and
15 a motor drive controller unit coupled to the electric motor and to
16 the data bus to communicate signals to the vehicle controller such that the
17 speed and/or torque of the motor are controlled based upon the signals.

1 24. The vehicle of claim 23, including an energy dissipation unit
2 coupled to the AC power bus and the data bus.

1 25. The vehicle of claim 24, further comprising a plurality of
2 suspension assemblies, wherein each assembly independently suspends one
3 of the wheels relative to the vehicle support structure.

1 26. The vehicle of claim 24, further comprising a differential
2 assembly for coupling the electric motor to at least two of the wheels such
3 that the average speed of the wheels is proportional to the motor speed.

1 27. The vehicle of claim 24, wherein the electric motor is coupled
2 to only one of the wheels.

1 28. The vehicle of claim 24, wherein the plurality of wheels includes
2 at least six wheels.

1 29. The vehicle of claim 28, further comprising a plurality of
2 suspension assemblies, wherein each assembly independently suspends one
3 of the wheels relative to the vehicle support structure.

1 30. The vehicle of claim 29, further comprising:
2 at least two additional electric motors and two additional
3 respective drive controllers for coupling the two additional motors to the
4 power bus, wherein the controllers are coupled to the data bus;
5 at least three differential assemblies, wherein each differential
6 assembly couples at least two of the wheels to a respective electric motor
7 such that the average speed of the respective wheels is proportional to the
8 motor speed.

1 31. The vehicle of claim 29, further comprising at least five
2 additional electric motors and five additional respective drive controllers for
3 coupling the two additional motors to the power bus, wherein each of the
4 motors is coupled to a respective wheel, wherein the drive controllers are
5 coupled to the data bus.

1 32. The vehicle of claim 31, wherein the motors are suspended with
2 their respective wheels.

1 33. The vehicle of claim 31, further comprising a plurality of wheel
2 end reduction assemblies for coupling the wheels to their respective
3 differential assemblies.

1 34. The vehicle of claim 31, further comprising a plurality of wheel
2 end reduction assemblies for coupling the wheels to their respective motors.

1 35. The vehicle of claim 31, further comprising a plurality of wheel
2 end reduction assemblies for coupling the wheels to their respective motors.

1 36. The vehicle of claim 24, 25, 26, 27, 34 or 36, wherein the AC
2 power bus is configured to at least provide 50/60 Hz, 480 VAC, three-phase
3 power.

1 37. The vehicle of claim 24, wherein the vehicle controller is
2 configured to control the electric motor to brake the vehicle.

1 38. The vehicle of claim 24, wherein the electric motor is
2 configured to regenerate power back to one of the principal power unit and
3 the power storage unit.

1 39. A method of transferring data indicative of an electronic traction
2 vehicle to potential customers over the Internet comprising:
3 obtaining information on the electronic traction vehicle, the electronic
4 traction vehicle including a vehicle platform, a principal power unit mounted
5 on the vehicle platform, a power storage unit mounted on the vehicle
6 platform, a plurality of wheels rotatably mounted on the vehicle platform, an
7 electric motor coupled to at least one wheel, a drive controller coupled to the
8 electric motor, a vehicle controller having an input and an output terminal,

9 the vehicle controller coupled to the drive controller and a data bus network,
10 and an AC bus assembly to couple the principal power unit, the power
11 storage unit, and the electric motor through the drive controller;
12 entering the information on to a terminal, the terminal
13 operationally connected to an Internet server, the Internet server
14 operationally connected to the Internet; and
15 transmitting to the information from the terminal to the Internet
16 through an Internet server.

1 40. The method of transferring data indicative of an electronic
2 traction vehicle to potential customers over the Internet of claim 39, wherein
3 the terminal is a computer.

1 41. The method of transferring data indicative of an electronic
2 traction vehicle to potential customers over the Internet of claim 39, wherein
3 the information is selected from the group consisting of dates, prices,
4 shipping times, shipping locations, general shipping data, module type,
5 inventory, specification information, graphics, source data, trademarks,
6 certification marks and combinations thereof.